

## REMARKS/ARGUMENTS

Claims 1-24 are pending in the application following entry of the above amendments. In a telephonic interview of December 16, 2003, the above amendments were discussed with the Examiner. These amendments are discussed in greater detail below.

Claims 1-23 stand rejected as obvious. Claims 1-5, 7, 11-17, 19-21 and 23 stand rejected based on U.S. Pat. No. 5,763,028 (Matsumoto) and U.S. Pat. No. 6,407,155 (Qian). Claims 6, 8, 9, 18 and 22 stand rejected based on Matsumoto, Qian and U.S. Pat. No. 4,903,841 (Ohsima). Claim 10 stands rejected as obvious based on Matsumoto, Qian, U.S. Pat. No. 5,387,449 (Kunz) and U.S. Pat. No. 5,486,408 (Sentendrey).

Each of the rejected claims requires a laminate including a polyester layer and a polypropylene layer (claims 1-12 and 20-23) or a laminate including a polyester layer, a polypropylene layer and a polyamide layer (claims 2-4 and 13-19). The rejected claims further require a *laminating adhesive including clay platelets applied to at least one layer of an adjacent pair of layers* of the laminate to bond the layers together. As described in the application, the inclusion of the clay platelets provides a gas barrier. This would potentially allow for the elimination of another material from the laminate, such as a metal foil layer, which is normally included to provide a gas barrier. (See, e.g., page 4 of the specification, lines 1 to 8).

Matsumoto discloses a laminate for packaging including an inner layer (1) of polypropylene, an outer layer (5) of polyester and an intermediate plastic layer (3). The layers of the laminate are bonded together by an adhesive (4, 6). The laminate of Matsumoto further includes a barrier layer (2) of silicon oxide, aluminum oxide, tin oxide, or indium oxide. Matsumoto provides a specific example of adhesively bonded film layers of a packaging laminate including:

polypropylene (thickness of 70  $\mu\text{m}$ ), polyurethane adhesive agent (5  $\text{g}/\text{m}^2$ ), silicon oxide layer, biaxially drawn polyethylene terephthalate (thickness of 12  $\mu\text{m}$ ), polyurethane adhesive agent (5  $\text{g}/\text{m}^2$ ) and biaxially drawn polyethylene terephthalate (thickness of 12  $\mu\text{m}$ ) were laminated in this order from the inside (Col. 9, lines 53-59).

Matsumoto does not disclose or suggest that the laminating adhesive joining the film layers include clay platelets.

Qian discloses a composite material including montmorillonite clay. The clay is added to a matrix oligomer or matrix polymer melt. Qian states that the clay-containing material is "suitable for the production of *sheets, films and panels*." (Col. 20, lines 46-47).

Qian does not disclose or suggest that the clay-containing material be used in a laminating adhesive used to bond film layers of a laminate, instead of within a film layer as actually taught by Qian.

In the telephonic interview of December 16, 2003, the claim amendments presented herein were discussed with Examiner Nolan in regard to the cited art. In particular, the requirement of each of claims 1-23 for a *laminating adhesive including clay platelets applied to at least one layer of an adjacent pair of layers* of a laminate to bond the layers together was discussed in regard to Matsumoto and Qian.

During the interview, the Examiner referred to the description in Qian appearing at col. 20, lines 48-65, particularly the statement that *an extruded film* including the clay-containing composition *is suitable as a "coating"* for other materials such as wood, glass, ceramic, metal or other plastics. The Examiner took the position that it would be obvious to modify Qian to include clay platelets in a laminating adhesive, instead of an extruded film layer as actually taught in Qian, because "extruded films may have adhesive properties."

The position taken by the Examiner is defective. One skilled in the art, distinguishes extruded film layers from laminating adhesives used to bond film layers together. Nothing in the prior art would suggest modification in the claimed manner to include clay-platelets in a laminating adhesive instead of a film layer as taught by Qian. Qian, in fact, teaches away from the purportedly obvious modification by, instead, teaching that the "sheets, films and panels can be laminated to other plastic films, sheets or panels and this is preferably effected by co-extrusion."

As evidenced by the 1.132 declaration submitted with the previous response, those skilled in the art readily distinguish laminating adhesives from film layers that are joined by adhesives, based on how they are formed or applied (*i.e.*, extrusion of film layers versus

application of an adhesive to a film layer in a lamination machine) and based on how they are specified (*i.e.*, thickness of film layers versus unit weight for the applied adhesive). These characteristics associated with film layers and laminating adhesive used to bond film layers are also shown in Matsumoto, as noted above, and in the Specification of the present application at pages 6-7.

The Examiner has also improperly rejected claims 1-23 under Section 112 for failure to set for the subject matter of the invention based on the 1.132 declaration. The Examiner asserts erroneously that the statements in the declaration regarding the recognized differences between adhesives and film layers joined by adhesives are *key features* of the invention that are not included in the claims.

Characteristics such as film thickness and adhesive application weights do not need to be specified in order to distinguish a film layer from a laminating adhesive. Rather, these elements are distinguished by those skilled in the art merely by their identification as either a film layer or a laminating adhesive used to bond film layers together.

The Examiner has failed to provide a showing in the prior art of the required teaching of the claimed invention. The Examiner, instead, has created an issue, by asserting analogy between film layers and adhesives joining film layers (see, *e.g.*, the assertion beginning at the bottom of Page 4 of the February 28, 2003 office action), and then, improperly, misused applicant's rebuttal evidence. The newly presented rejection under Section 112 should be withdrawn.

Again, the cited references do not disclose or suggest a laminating adhesive containing clay platelets. The necessary teaching of the claimed invention, lacking in the cited references, can only be supplied by improper hindsight. It is respectfully requested that the rejections of claims 1-23 as obvious be withdrawn.

New claim 24 requires a laminate including first and second layers, respectively comprising polyester and polypropylene film. Claim 24 further requires a laminating adhesive including clay platelets applied to a surface defined by at least one of the first and second film layers. For the same reasons discussed above in regard to claims 1-23, the cited references do not disclose or suggest the required laminate. Claim 24 should also be allowed.

It is respectfully submitted that the application is in condition for allowance. A notice of allowance is earnestly solicited.

Respectfully submitted,  
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